Effect of plyometric training with yogic practices and plyometric training without yogic practices on physical fitness variables among women cricket players

C Gayatri and G Sarah Sarojini

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Abstract
The Aim of the study was to find out the Effect of Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices on Physical Fitness Variables among Women Cricket Players. The investigator randomly selected 90 women Cricket Players from different colleges in Tirupati and the age of players were between 17 and 21 years. They were divided into three groups with thirty subjects each (n = 30) at random again consisting thirty subjects in each group and they were randomly assigned as Experimental group I Plyometric Training with Yogic Practices, Experimental group II Plyometric Training without Yogic Practices and control group (CG). Speed and Agility has selected as criterion variable of this study. The experimental groups underwent Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices for eight weeks, three days per week and a session on each day. The difference between the Pre-test and post-test means were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the hypothesis of the study, which was considered as an appropriate. It was concluded from the result of the study that there was a significant improvement (p ≤ 0.05) due to Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices on Speed and Agility as compared to control group.

Keywords: Yogic practices plyometric training, speed and agility

Introduction
Physical fitness includes the presentation of the heart and lungs, and the muscles of the body. Furthermore, since how we manage our bodies likewise impacts how we can manage our psyches, wellness impacts somewhat characteristics like mental sharpness and enthusiastic security. Importance of physical fitness is nurtured only when man exhibits his innocence to stand as a complete individual in the society. The society believes that to lead successful life one should attain victories in all his ventures. But success should not be assessed through number of victories; it should be assessed only through pains and problems that you over come. Plyometric training is the key to developing maximal explosive power through speed of movement which in turn, the key elements involved in sports. By doing various forms of plyometrics exercises, muscles become loaded or coiled and then the energy accumulated from the loading is switched in direction so that body becomes unloaded and is the process is propelled upward and forward. At this time, muscles act as springs. They undergo compression, which builds up tension (force) and after being fully loaded (compressed), then they expand to their original shape and in so doing release the force upward (Michael, 1986).

Yoga is the fine tuning of the human body or engine. It enables us to perform up to our potential. Yoga can be described as a condition that helps us for better look, pleasant feel and do our best. Yoga, a conscious and systematic process to accelerate the growth of human mind, is now emerging as a new tool in this search. meditation, in particular, is providing man a means to reach the subtle layers of mind. It has been shown through the experimental results on meditation; that knowledge and creativity are structured in subtler layers of mind or deeper states of science are now being found in deeper states if our consciousness. Brought a breakthrough in unraveling the hidden dimensions of mind. (Iyengar, 2001).
Materials and methods
The purpose of the study was to find out the Effect of Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices on Physical Fitness Variables among Women Cricket Players. The investigator randomly selected 90 women Cricket Players from different colleges in Tirupati and the age of players were between 17 and 21 years. The selected subjects were randomly divided into three equal groups of thirty subjects each (n = 30). Experimental group I is assigned as Plyometric Training with Yogic Practices and Experimental group II is assigned as Plyometric Training without Yogic Practices and control group. During the training period, the experimental groups underwent their respective training programme for eight weeks 3 days per week. Control group (CG) did not participate in any specific training. Speed and Agility were selected as dependent variable for this study. It was measured by Speed and Agility through 50 yard dash and shuttle run test. Pre-test was conducted before experimental treatment. The fact finding assists in Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices. Post-test was conducted after experimental treatment. The collected data were statistically examined by analysis of covariance (ANCOVA). The confidence level was fixed at 0.05 levels, which is appropriate to the present study

Results on Speed
The statistical analysis comparing the Initial and Final means of Speed due to Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices among women Cricket Players is presented in Table I

Table I: Analysis of Covariance on Speed of Experimental Groups and Control Group

<table>
<thead>
<tr>
<th>Test</th>
<th>Plyometric Training with Yogic Practices</th>
<th>Plyometric Training without Yogic Practices</th>
<th>Control group</th>
<th>SOV</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>f-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test Mean</td>
<td>10.70</td>
<td>10.59</td>
<td>10.81</td>
<td>Between</td>
<td>0.72</td>
<td>2</td>
<td>0.36</td>
<td>0.27</td>
</tr>
<tr>
<td>Post Test Mean</td>
<td>9.25</td>
<td>9.59</td>
<td>10.75</td>
<td>Between</td>
<td>37.22</td>
<td>2</td>
<td>18.60856778</td>
<td>31.24*</td>
</tr>
<tr>
<td>Adjusted Post Test Mean</td>
<td>9.24</td>
<td>9.62</td>
<td>10.72</td>
<td>Between</td>
<td>35.06</td>
<td>2</td>
<td>17.53</td>
<td>35.61*</td>
</tr>
</tbody>
</table>

The value of required for significant at 0.05 levels with 2 and 87 (df) = 3.10, 2 and 86 (df): 3.10 *Significant

Pre-Test: The obtained pre test means on Speed on Plyometric Training with Yogic Practices group was 10.70, and Plyometric Training without Yogic Practices group was 10.59 and Control group was 10.81. The obtained pre test F value was 0.27 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

Post – Test: The obtained post test means on Speed on Plyometric Training with Yogic Practices group was 9.27 and Plyometric Training without Yogic Practices group was 9.59 was and Control group was 10.75. The obtained post test F value was 31.24* and the required table F value was 3.10, which proved that there was significant difference among post test scores of the subjects.

Adjusted Post – Test: Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 35.61* was greater than the required value of 3.10 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to analysis using Scheffe’s post Hoc Confidence Interval test. The results were presented in Table II.

Table II: Multiple Comparisons of Paired Adjusted Means and Scheffe’s Post Hoc Confidence Interval Test results on Speed

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plyometric Training with Yogic Practices</td>
<td>9.24</td>
<td>9.62</td>
</tr>
<tr>
<td>Plyometric Training without Yogic Practices</td>
<td>10.72</td>
<td>1.47*</td>
</tr>
<tr>
<td>Control Group</td>
<td>10.72</td>
<td>1.10*</td>
</tr>
</tbody>
</table>

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Plyometric Training with Yogic Practices and control group (MD: 1.47*). There was significant difference between Plyometric Training without Yogic Practices and control group (MD: 1.10*). There was no significant difference between treatment groups, namely, Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices. (MD: 0.38).

Results on Agility
The statistical analysis comparing the Initial and Final means of Agility due to Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices among women Cricket Players is presented in Table III.
The obtained pre test means on Agility of Plyometric Training with Yogic Practices group was 11.79 and Plyometric Training without Yogic Practices group was 11.75. The obtained pre test F value was 0.89 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Sagility of Plyometric Training with Yogic Practices group was 10.75 and Plyometric Training without Yogic Practices group was 10.84. The obtained post test F value was 23.16 and the required table F value was 3.10, which proved that there was significant difference among post test scores of the subjects.

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Plyometric Training with Yogic Practices and control group (MD: 0.97*). There was no significant difference between Plyometric Training without Yogic Practices and control group (MD: 0.86*). There was no significant difference between treatment groups, namely, Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices. (MD: 0.11).

The aim of this study was to examine the effects of selected Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices on physical fitness variables of women Cricket players. Results suggest that eight weeks of Plyometric Training with Yogic Practices and Plyometric Training without Yogic Practices resulted in a significant increase in speed and Agility record at the end of the training period. However, there was an insignificant difference between the training groups.

The value of required for significant at 0.05 levels with 2 and 87 (df) = 3.10, 2 and 86 (df). 3.10 *Significant

### Table IV: Multiple Comparisons of Paired Adjusted Means and Schefee’s Post Hoc Confidence Interval Test results on Agility

<table>
<thead>
<tr>
<th>Test</th>
<th>Plyometric Training with Yogic Practices</th>
<th>Plyometric Training without Yogic Practices</th>
<th>Control Group</th>
<th>Mean Difference</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test Mean</td>
<td>11.79</td>
<td>11.75</td>
<td>11.64</td>
<td>Between 0.36</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Within 17.76</td>
<td>0.20</td>
</tr>
<tr>
<td>Post Test Mean</td>
<td>10.75</td>
<td>10.84</td>
<td>11.63</td>
<td>Between 14.05</td>
<td>7.02331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Within 26.38</td>
<td>0.30</td>
</tr>
<tr>
<td>Adjusted Post Test Mean</td>
<td>10.71</td>
<td>10.82</td>
<td>11.68</td>
<td>Between 16.56</td>
<td>8.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Within 19.80</td>
<td>0.23</td>
</tr>
</tbody>
</table>

* Significant

### References

1. Adams TM. “An investigation of selected plyometric training exercises on muscular leg strength and power” Track field Quarterly Review, 1984, 84-36.


